

Atty. Docket No. 38105.830037.US0  
Serial No. 09/477,954  
Via Electronic Filing

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of )  
SULLIVAN ) Group Art Unit: 2617  
Serial No. 09/477,954 ) Examiner: Nguyen, Khai Minh.  
Filed: January 5, 2000 )  
For: ANTENNA SYSTEM FOR )  
A WIRELESS )  
COMMUNICATION DEVICE )

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**SUPPLEMENTAL APPEAL BRIEF**  
**SUBMITTED IN RESPONSE TO NOTIFICATION OF NON-COMPLIANT**  
**APPEAL BRIEF**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This is an appeal from the decision of the Examiner mailed on September 25, 2006, reopening prosecution in view of the previously submitted Appeal Brief. In the September 25, 2006 Action, the Examiner maintained the previously applied rejection of claims 3-10 and 12-14 of the above identified patent application. In the action, the Examiner admitted to the allowability of claim 11. The applicant respectfully thanks the Examiner for the indication that claim 11 contains allowable subject matter.

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REAL PARTY IN INTEREST

The real party in interest in this appeal is Laird Technologies, Inc., who owns 100% interest in Centurion Wireless Technologies, Inc., which is the successor of Centurion International, Inc. The Assignment to Centurion International, Inc. is evidenced at Reel 010686, Frame 0297.

RELATED APPEALS AND INTERFERENCES

Neither Appellants, Appellants' legal representative, nor Appellants' assignee know of appeals or interferences that will directly affect, or be directly affected by, or have a bearing on the Board's decision in the present appeal.

STATUS OF CLAIMS

Claims 1 and 2 have been canceled from the application.

Claims 3-14 remain in this application.

This appeal is taken from the final rejection of claims 3-10 and 12-14.

No claims are allowed.

Claim 11 is objected to as allowable, but dependent on a rejected based claim.

STATUS OF AMENDMENTS

All amendments to the case have been entered by the Examiner.

SUMMARY OF CLAIMED SUBJECT MATTER

The present application includes independent claim 5 from which claims 3, 4, and 6-9 depend either directly or indirectly. The preamble of claim 5 is directed to a wireless communication device. (Page 4, lines 2-12). Claim 5 includes a housing 10 for the wireless communication device. (Page 4, line 3). Claim 5 further includes a transceiver circuit as provided by a printed circuit board 16. (Page 4, lines 3-4). Claim 5 still further comprises two independent antennas 20, 22. (Page 4, line 17, to Page 5, line 10). One of the antennas comprises an internal antenna 20. (Page 4, lines 6-16, and Page 5, lines 1-10).

The other of the antennas comprises an external, retractable antenna 22. (Page 4, line 17, to page 5, line 10). Claim 5 further recites that external, retractable antenna 22 is moveably mounted on said internal antenna 20 and being movable between a retracted position and an extended position with respect thereto. (Figures 2 and 3). Claim 5 additionally recites that said internal antenna 20 being in circuit with said transceiver circuit 16 when said external antenna 22 is in its said retracted position; said internal antenna 20 being out of circuit with said transceiver circuit 16 when said external antenna 22 is in its said extended position; said external antenna 22 being in circuit with said transceiver circuit 16 when in its said extended position; and said external antenna 22 being out of circuit with said transceiver circuit 16 when in its said retracted position. (Page 4, line 23, to page 5, line 6).

Claim 5 does not include any means-plus-function limitations pursuant to 35 U.S.C. § 112(6). Dependent claims 3, 4, and 6-9 likewise do not contain any means-plus-function limitations pursuant to 35 U.S.C. § 112(6).

The present application includes independent claim 10 from which claims 11-14 depend. The preamble of claim 10 recites a wireless communication device. (Page 4, lines 2-12). Claim 10 further recites the wireless communication device includes a housing 10 includes a front housing member 12 and a back housing member 14 that have upper and lower ends . (Page 4, lines 3-4). Claim 10 further recites that a printed circuit board 16 is positioned in said housing 10 adjacent said front housing member 12 which functions as a transceiver circuit. (Page 4, lines 3-4). Still further, claim 10 recites an internal antenna 20 positioned in said housing 10 adjacent said upper end of said back housing member 14 and an external, retractable antenna 22 movably mounted on said internal antenna 20 and being movable between a retracted position and an extended position with respect thereto. (Figures 2 and 3, page 4, lines 17-22).

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Claim 10 includes that said internal antenna 20 being in circuit with said transceiver circuit 16 when said external antenna 22 is in its said retracted position; said internal antenna 20 being out of circuit with said transceiver circuit 16 when said external antenna 22 is in its said extended position; said external antenna 22 being in circuit with said transceiver circuit 16 when in its said extended position; and said external antenna 22 being out of circuit with said transceiver circuit 16 when in its said retracted position.

Claim 10 does not include any means-plus-function limitations pursuant to 35 U.S.C. § 112(6). Dependent claims 11-14, likewise, do not contain any means-plus-function limitations pursuant to 35 U.S.C. § 112(6).

The wireless communication device further comprises an RF port 18 incorporated into the internal antenna 20. (Figure 2, page 4, lines 8-9). The RF port 18 is claimed in dependent claims 3, 4, 8, 9, and 14.

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GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The grounds of rejection to be reviewed on appeal are:

- (1) Are claims 5-7 unpatentable under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 5,109,539 ("Inubushi et al.")?
- (2) Are claims 3, 4, 8, and 9 unpatentable under 35 U.S.C. § 103(a) as obvious over Inubushi et al in view of United States Patent 4,862,182 ("Egashira")?
- (3) Are claims 10, 12, 13 unpatentable under 35 U.S.C. § 103(a) as obvious over Inubushi et al in view of well known prior art?
- (4) Is claim 14 unpatentable under 35 U.S.C. § 103(a) as obvious over Inubushi et al in view of well known prior art in further view of Egashira, and in further view of United States Patent 5,663,692 ("Swope")?

GROUPING OF CLAIMS

The claims on appeal stand or fall together.

SUMMARY OF THE EXAMINER'S FINAL REJECTION

The Examiner finally rejected claims 3-10 and 12-14 in a January 7, 2005 Office Action. The January 7, 2005 Final Office Action rejected the applicant's arguments presented in a paper and during an interview and essentially maintained a rejection contained in a June 17, 2004 Non-Final Office Action.

In the January 7, 2005 Final Office Action, the Examiner rejected claims 5-7 under 35 U.S.C. § 102(b) as being anticipated by Inubushi et al. In particular, the Examiner opines that Figures 4 and 5 of Inubushi et al. clearly disclose that "an external, retractable antenna 8 movably mounted on said internal antenna 10 and being movable between a retracted position and an extended position with respect thereto."

Regarding claims 3, 4, 8, and 9, the Examiner applies Inubushi et al. as applied to independent claim 5; however, the Examiner admits that Inubushi et al. does not disclose a remote RF port. The Examiner relies on Egashira to disclose a remote RF port.

Regarding claims 10, 12, and 13, the Examiner applies Inubushi et al. as applied in claim 1, but admits Inubushi et al. does not disclose "said transceiver circuit is in a printed circuit board (PCB) positioned in said housing 1. . ." The Examiner believes at the time the present invention was filed, "it is notoriously well known in the art to place transceiver circuitry in a PCB positioned in a front portion of the housing of a wireless device for enhanced operation."

Finally, regarding claim 14, the Examiner applies Inubushi et al. in view of the "known prior art" as indicated above, but admits the combination does not disclose a remote RF port. The Examiner relies on Egashira to disclose a portable radio telephone including a conductive tube. The Examiner admits neither Inubushi et al. nor Egashira disclose an RF port. The Examiner relies on

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Swope for the disclosure of a RF port and opines it would have been obvious to modify the device of Inubushi et al. combined with Egashira to incorporate an RF Port.

SUMMARY OF THE REFERENCES

Inubushi et al. relates to a portable communication device, such as, for example, a radio telephone. For example, Inubushi et al. discloses in Figures 4-6 a conventional portable telephone comprising a housing 1, a receiver 2 provided internal to the housing 1, and a voice hole 3 provided in the outer surface of the housing 1, a microphone 4 is provided in the housing 1 as well as an externally antenna 8. Antenna 8 is connected to housing 1 by connector 9. Housing 1 further includes an internal antenna 10 and a switch 11 that is a change-over switch to switch between external and internal antenna operation.

Egashira relates to an antenna for a portable radio telephone. In particular, Egashira discloses a portable radio telephone that has a retractable main antenna 1. Main antenna 1 is normally extended during telephone use and retracted when not in use. An internal sub-antenna element 10 is provided to allow reception of call signals from calling parties when main antenna 1 is in the retracted position. In the retracted position, sub-antenna element 10 electrically connects to conductive tube 9. When main antenna 1 is extended, cam 4 prevents sub-antenna element 10 from contacting conductive tube 9 electrically isolating the sub-antenna element 10.

The Examiner considers it “notoriously well known in the art to place transceiver circuitry in a PCB positioned in a front portion of the housing of a wireless device for enhanced operation.” The Examiner has not produced any specific evidence of this fact, which the applicants’ dispute, but as will be shown, is largely not relevant as the present invention is clearly patentable over the reference.

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Swope relates to a radio frequency switch for use with a two way radio.  
In particular, Swope provides a remote port 113 through which RF energy can be directed.

ARGUMENT

Claims 3-14 are currently pending in this application. Claims 3-10 and 12-14 have been finally rejected as will be addressed further below. In the January 7, 2005 Final Office Action, the Examiner objected to the inclusion of Figure 4. The applicant has agreed to delete Figure 4, but the Examiner does not believe the proper paperwork has been submitted. The inclusion of the RF plot associated with Figure 4 is not necessary for an understanding of the invention, and once the Board has decided this appeal, the applicant will submit additional papers to delete Figure 4 from the application. Thus, for the purposes of this appeal, the objection to Figure 4 is not an issue the Board needs to decide.

**1. ARE CLAIMS 5-7 UNPATENTABLE UNDER 35 U.S.C. § 102(B) AS BEING ANTICIPATED BY U.S. PATENT 5,109,539 (“INUBUSHI ET AL..”)?**

The Examiner rejected claims 5-7 under 35 U.S.C. § 102(b) as being anticipated by Inubushi et al. The applicant respectfully traverses the rejection. In particular, claim 5 recites a combination of elements including, for example, “an external, retractable antenna movably **mounted on** said internal antenna . . . ,” (emphasis added) which is not disclosed, taught, or suggested by Inubushi et al. While Inubushi et al. does disclose an internal antenna 10 and an external, retractable antenna 8, Inubushi et al. discloses external, retractable antenna 8 is mounted on the housing 1. In particular, at column 1, lines 34-36, Inubushi et al. states: “Element 9 is a member for mounting the external antenna 8 **to the housing** and electrically connecting it thereto.” (emphasis added). Thus, as clearly shown, Inubushi et al. does not disclose, teach, or suggest “an external, retractable antenna movably mounted on said internal antenna” as recited by claim 5 of the present application.

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To the extent the Examiner contends that Figures 4 and 5 of Inubushi et al. disclose that external, retractable antenna 8 is mounted on internal antenna 10, the applicant respectfully submits the Examiner is reading too much into the Figures. Figures 4 and 5 show nothing more than the relationship and/or location of elements 8 and 10 in regards to each other as well as other components of the radio telephone. Figures 4 and 5 do not show antenna 8 mounted to sub-assembly 10. Furthermore, such an argument is directly counter to the above cited portion of the specification where the disclosure specifically states “Element 9 is a member for mounting the external antenna 8 to the housing . . .”

Thus, for at least the above-mentioned reasons, is respectfully submitted that claim 5 is patentably distinct from Inubushi et al. The applicant respectfully requests the reversal of the rejection of claim 5.

Claims 6 and 7 depend from claim 5 and, at least by virtue of the dependency, are patentably distinct from Inubushi et al. The applicant respectfully requests the reversal of the rejection of claims 6 and 7.

**2. ARE CLAIMS 3, 4, 8, AND 9 UNPATENTABLE UNDER 35 U.S.C. § 103(A) AS OBVIOUS OVER INUBUSHI ET AL IN VIEW OF UNITED STATES PATENT 4,862,182 (“EGASHIRA”)?**

The Examiner rejected claims 3, 4, 8, and 9 under 35 U.S.C. § 103(a) as being unpatentable and obvious over Inubushi et al. in view of United States Patent 4,862,182 (“Egashira”). As an initial matter, Egashira does not cure the defect of Inubushi et al.

Moreover, the applicant respectfully suggests that the Examiner is reading more into the Egashira reference than the reference in fact discloses. In particular, the Examiner considers the “conductive tube 9” element of Egashira to be a remote RF port as recited in claims 3, 4, 8, and 9. The applicant

respectfully disagrees. The present invention specifically discloses the remote RF port 18 as mechanically connected to internal antenna 18. Rather than a remote RF port, Egashira discloses a conductive tube 9 that is part of the “antenna retaining mechanism” and is not a remote RF port. As described by Egashira “the antenna retain mechanism 5 consists of: A cylindrical fastening part 6 which is used to fasten the mechanism 5 to the case; a water-proof cap 8 equipped with an O-ring 7 to prevent water from seeping into the interior of the case, and a conductive tube 9 which has on its interior circumferential surface an engaging part capable of maintaining a state of electrical continuity with groove 3a which acts as the feeding conductive part of the main antenna element 1.” Furthermore, conductive tube 9 is only mechanically connected to sub-assembly 10 when the main antenna 1 is in the retracted position.

Thus, at least for the above-mentioned reasons, claims 3, 4, 8, and 9 are patentably distinct from Inubushi et al. and Egashira, either alone or in any reasonable combination thereof, for at least this additional reason. Therefore, the applicant respectfully requests the reversal of the rejection of claims 3, 4, 8, and 9.

**3. ARE CLAIMS 10, 12, AND 13 UNPATENTABLE UNDER 35 U.S.C. § 103(A) AS OBVIOUS OVER INUBUSHI ET AL IN VIEW OF WELL KNOWN PRIOR ART?**

The Examiner rejected claims 10, 12, and 13 under 35 U.S.C. § 103(a) as being unpatentable over Inubushi et al. in view of well-known prior art. The applicant respectfully traverses this rejection. Claim 10 contains recitations similar to claim 5 above and, at least by virtue of this similarity, is patentably distinct from Inubushi et al. The well known prior art the Examiner outlines, which applicant disagrees is in fact well known prior art, does not cure the defect in Inubushi et al described above. Thus, claim 10 is patentably distinct from

Inubushi et al., in view of the recited well-known prior art. The applicant respectfully requests the reversal of the rejection of claim 10. Claims 12 and 13 depend from claim 10 and, by virtue of this dependency, are patentably distinct from the references, either alone or in any reasonable combination thereof. Thus, the applicant respectfully requests the reversal of the rejection of claims 12 and 13.

**4. IS CLAIM 14 UNPATENTABLE UNDER 35 U.S.C. § 103(A) AS OBVIOUS OVER INUBUSHI ET AL. IN VIEW OF WELL-KNOWN PRIOR ART IN FURTHER VIEW OF EGASHIRA AND IN FURTHER VIEW OF SWOPE?**

The Examiner rejected claim 14 under 35 U.S.C. § 103(a) as being unpatentable and obvious over Inubushi et al. in view of the recited well-known prior art in further view of Egashira and in further view of Swope. The applicant respectfully traverses this rejection. Claim 14 depends from claim 10 and contains similar recitations to claims 3, 4, 8, and 9 identified above. Claim 14 is patentably distinct from Inubushi et al. in view of the recited well-known prior art in part because of the dependency on claim 10, which is patentably distinct from Inubushi et al. in view of the well-known prior art. Further, neither Egashira nor Swope cure the defects in Inubushi et al. noted above. Also, claim 14 contains limitations similar to claims 3, 4, 8, and 9 and, by virtue of these similarities, is patentably distinct from the references alone or in any combination thereof. Essentially, the known prior art does not cure the defects of Inubushi et al., Egashira, and Swope identified above. Thus, the applicant respectfully requests the reversal of the rejection of claim 14.

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Conclusion

Based on the above, claims 3-14 are patentably distinct from the references to Inubushi et al., Egashira, Swope and the allegedly known prior art, either alone or in any reasonable combination thereof.

Request:

Reversal of the Examiner's final rejection of claims 3-10 and 12-14 under 35 U.S.C. §§ 102(b) and 103(a) is respectfully requested for the above-stated reasons.

Signed this 14 day of July 2008.

Respectfully submitted,



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Brian Kinnear, Reg. No. 43,717  
ATTORNEY FOR APPLICANT  
HOLLAND & HART LLP  
Post Office Box 8749  
555 17<sup>th</sup> Street, suite 3200  
Denver, Colorado 80201  
(303) 295-8170

APPENDIX A

Claims 3-14 involved in this Appeal read as follows:

3. The wireless communication device of claim 5 wherein a remote RF port is provided which is mechanically connected to said internal antenna.
4. The wireless communication device of claim 6 wherein a remote RF port is provided which is mechanically connected to said internal antenna.
5. A wireless communication device, comprising:
  - a housing;
  - a transceiver circuit disposed within said housing;
  - an internal antenna disposed within said housing; and
  - an external, retractable antenna movably mounted on said internal antenna and being movable between a retracted position and an extended position with respect thereto;
  - said internal antenna being in circuit with said transceiver circuit when said external antenna is in its said retracted position;

said internal antenna being out of circuit with said transceiver circuit when said external antenna is in its said extended position;

said external antenna being in circuit with said transceiver circuit when in its said extended position; and

said external antenna being out of circuit with said transceiver circuit when in its said retracted position.

6. The wireless communication device of claim 5 wherein a switching mechanism selectively connects either said external antenna or said internal antenna to said transceiver circuit.
7. The wireless communication device of claim 5 wherein said internal and external antennas are electrically disconnected from one another at all times.
8. The wireless communication device of claim 5 wherein a remote RF port is provided in said housing which is mechanically connected to said internal antenna.
9. The wireless communication device of claim 7 wherein a remote RF port is provided in said housing which is mechanically connected to said internal antenna.
10. A wireless communication device, comprising:
  - a housing including a front housing member and a back housing member;

said front and back housing members having upper and lower ends;

a printed circuit board positioned in said housing adjacent said front housing member which functions as a transceiver circuit;

an internal antenna positioned in said housing adjacent said upper end of said back housing member; and

an external, retractable antenna movably mounted on said internal antenna and being movable between a retracted position and an extended position with respect thereto;

said internal antenna being in circuit with said transceiver circuit when said external antenna is in its said retracted position;

said internal antenna being out of circuit with said transceiver circuit when said external antenna is in its said extended position;

said external antenna being in circuit with said transceiver circuit when in its said extended position; and

said external antenna being out of circuit with said transceiver circuit when in its said retracted position.

11. The wireless communication device of claim 10 wherein said internal antenna has a front and back sides and wherein said back side of said internal antenna has a remote RF port formed in its back side; said back housing member having an opening formed therein which communicates with said remote RF port.
12. The wireless communication device of claim 10 wherein a switching mechanism selectively connects either said external antenna or said internal antenna to said transceiver circuit.
13. The wireless communication device of claim 10 wherein said internal and external antennas are electrically disconnected from one another at all times.
14. The wireless communication device of claim 10 wherein a remote RF port is provided which is mechanically connected to said internal antenna.

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Evidence Appendix

Appendix B

None

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Related Proceedings Appendix  
Appendix C

NONE

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